DOCUMENT RESUME

ED 262 449 CS 505 095

AUTHOR Blosser, Betsy J.; Roberts, Donald F.
TITLE Age Differences in Children's Perceptions of Message Intent: An Exploratory Study.
PUB DATE May 85
NOTE 40p.; Paper presented at the Annual Meeting of the International Communication Association (35th, Honolulu, HI, May 23-27, 1985).
PUB TYPE Speeches/Conference Papers (150) -- Reports - Research/Technical (143)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Age Differences; *Cognitive Processes; Concept Formation; Credibility; *Perceptual Development; Preadolescents; Preschool Children; Speech Communication; *Television Commercials; *Television Research; *Television Viewing

ABSTRACT

To determine when and how children begin to differentiate among messages with different goals and to examine whether such differentiation leads to differences in interpretational strategies, 90 children between the ages of 4 and 11 viewed each of five different television messages representing four different message types. The types were: (1) informational (excerpts from network news); (2) persuasive (child-oriented commercials and adult-oriented commercials); (3) educational (excerpts from an instructional spot); and (4) mixed (child-oriented public service announcements). Immediately after viewing each message, children responded to open-ended interviews about message content, type, intent, believability, and belief criteria. It was found that comprehension of narrative content was high, even among the youngest children. Similarly, young children were able to identify messages for which common labels existed in the vernacular. However, few children ever attached labels to educational spots or public service announcements. Correct articulation of message intent took much longer; few children under the age of 8 years correctly identified the intent of any message type. There was also an age-related trend toward the use of functional cues to aid in message identification and a dramatic trend toward reality testing as the appropriate basis for evaluations of message believability. (Author/HOD)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)
X This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

ED262449

Age Differences in Children's Perceptions of Message Intent: An Exploratory Study

Betsy J. Blosser

University of Illinois at Chicago

Donald F. Roberts

Stanford University

Presented at the Annual Convention of the International Communication Association

Honolulu, Hawaii

May, 1985

CS 505 095

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Donald F. Roberts

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Age Differences in Children's Perceptions of Message Intent:
An Exploratory Study

Abstract

Ninty children between four and eleven years old viewed each of five different television messages selected to represent four different message types: 1) informational (excerpts from network news); 2) persuasive (child-oriented commercials and adult-oriented commercials); 3) educational (excerpts from an instructional spot); 4) mixed (child-oriented public service announcements). Immediately after viewing each message, children responded to open-ended interviews about message content, type, intent, believability and belief criteria. Interview transcripts were coded to explore when and on what basis children begin to differentiate among different types of messages and to process them differently. Comprehension of narrative content was high, even among the youngest children. Similarly, young children were able to identify messages for which common labels exist in the vernacular (news; commercials); however, few children ever attached labels to educational spots or public service announcements. Correct articulation of message intent took much longer; few children under the age of eight years correctly identified the intent of any message type. There was also an age related trend toward the use of functional cues to aid in message identification, and a dramatic trend toward reality testing as the appropriate basis for evaluations of message believability. The single exception to this result was the finding of a disturbing tendency for children to believe news because it is news. Finally, the evidence indicates that young children may interpret messages in informational terms regardless of the message's intent (eg., to persuade or instruct).

Age Differences in Children's Perceptions of Message Intent: An Exploratory Study

Betsy J. Blosser

University of Illinois at Chicago

Donald F. Roberts

Stanford University

Although research has begun to focus on how children process television content (e.g., interpret plots, distinguish between reality and fantasy content, integrate formal features with narrative substance, etc.; cf. Bryant and Anderson, 1983; Dorr, 1980; Wartella, 1979), little attention has been paid to examining when and how they begin to distinguish among messages with different intents or goals. With the exception of a few studies of children's responses to television commercials (Roberts, 1983), and some work concerned with how children adjust their own communication behavior when attempting to persuade others (Delia & O'Keefe, 1979), we have found no literature that directly examines the development of children's ability to differentiate among informational, instructional, entertainment and persuasive messages. Absence of such research is remarkable on two counts.

First, recognition of message intent is generally accepted as fundamental to the nature and outcome of most adult communication relationships. That is, "successful" communication tends to emerge when interactants concur on the goal of a communication exchange and adjust encoding and decoding behavior accordingly. Schramm (1971, 1973) describes this process in terms of an "implicit cultural contract" in which cultural values and role

patterns enable both parties to take the expectations of the other into account. For example, in an entertainment situation actors "contract" to give a skilled performance and audience members "contract" to suspend disbelief. In a persuasion situation, on the other hand, source and receiver goals typically diverge, hence the culturally established expectations lead receivers to enter the exchange with their guard up and communicators to be restricted only by anticipation of what might happen if message elements are perceived to be false or misleading. But regardless of whether the primary goal of a message is to inform, instruct, entertain, or persuade, and regardless of the nature of the cultural expectations associated with each, a necessary condition for appropriate receiver behavior is accurate perception of message intent.[1] It seems reasonable, then, to ask when and how people come to identify different message intents.

Second, lack of attention to this issue is surprising because children have long been treated as a "special audience." They are seen as particularly vulnerable because they lack the cognitive skills and life experiences necessary to interpret and evaluate messages as adequately as adults do. One of these skills seems to be the ability to identify message intent. For example, a primary concern of research on children and TV has been that children are likely to learn from and be influenced by content the essential goal of which is not to teach, but to entertain. It is feared that such content may not be "properly" interpreted because the entertainment intent is not recognized, or because such recognition does not control appropriate informa-

tion processing strategies (cf. Christenson & Roberts, 1983; Comstock et al., 1978; Roberts & Bachen, 1980).

Similarly, concern over the implications of presenting instructional content in a predominantly entertainment format[2] and and the debate over whether commercials take unfair advantage of children (FTC Advisory Staff, 1978; Roberts, 1983; Rossiter, 1980) also reflect concerns that young children will respond inappropriately because they do not differentiate among messages with different goals, or recognize that each requires different information processing and evaluation strategies.

Direct attention to children's ability to recognize the intent of television messages has been largely limited to research on commercials. The Federal Trade Commission hearings on television advertising directed at children (FTC Advisory Staff, 1978) sparked a flurry of interest in determining when children begin to understand the persuasive intent of commercials. Studies have shown that perceptual differentiation between program and commercial occurs by the late preschool years (Gaines & Esserman, 1981; Zuckerman & Giannino, 1981) and that, depending on the children interviewed, the context of the study, and the way in which the questions are asked, a majority of children verbalize about the selling intent of commercials at least by the third grade and sometimes as early as the kindergarten years (Gaines & Esserman, 1981; Robertson & Rossiter, 1974; Ward, Wackman & Wartella, 1977). Roberts (1983), however, argues that the simple verbalization that commercials are intended "to sell products" does not indicate adult-like comprehension of TV commercials. Such an explanation equates TV commercials and news-

paper classified advertisements, an equation that few adults would accept. It fails to recognize the persuasive nature of commercial messages, the emphasis on yielding that tends to bias content and presentation, hence elicit defensive interpretation strategies from adults. At minimum, adult comprehension of a commercial requires recognition that (1) sources may have perspectives and interests that differ from those of receivers; (2) the source intends to persuade; (3) persuasive messages are biased; (4) biased messages require different interpretation strategies from other kinds of messages. Finally, adult processing of a persuasive message requires (5) development of the skills and experience necessary to act on such recognition and engage in appropriate information processing strategies. In other words, Roberts (1983) posits a developmental sequence through which children come first to examine messages to determine their intent, then to interpret them on the basis of that determination.

Research on children's comprehension of commercials supports such a progression (Comstock, et al., 1978; Roberts, 1983; Roberts, Bachen & Christenson, 1978; Wartella, 1980). It also dovetails nicely with work on the development of children's social cognitions (Flavell, 1977; Selmon & Damon, 1975; Shantz, 1975) showing that relatively sophisticated role-taking abilities and meta-cognitive skills develop over time, reaching a level necessary for appropriate processing of persuasive messages sometime around the age of seven years. And finally, to the extent that message intent is similar, if not

identical, to message function, early studies showing dramatic increases in the proportion of children who categorize groups of pictures on the basis of functional attributes at about the same age also concurs with this expectation (Olver and Hornsby, 1966).

It seems reasonable to expect comprehension of at least entertainment and educational messages to follow a similar course, although possibly at different rates. This assumes that young children process almost all incoming stimuli, whether directly experienced signs or socially mediated symbols, as informational. That is, early childhood can be characterized as a period of reality building and testing, a time when children attempt to organize and make sense of the sea of information in which they find themselves immersed, in order to determine what to expect from the world and what the world expects from them. There is evidence that young children tend not to engage in the kinds of selective attention and retention characteristic of their older counterparts (Hale, Miller & Stevenson, 1968; Collins, 1970; Comstock, et al., 1978). Similarly, it is only between five and eight years that children spontaneously demonstrate the ability to encode information into meaningful units, to organize information in a meaningful fashion, and to develop systematic strategies when faced with recall tasks (Flavell, 1977). And it is not until around seven or eight years that children spontaneously distinguish between actual and symbolic events (Worth and Gross, 1974). In light of such findings, it appears that the first years of reality construction rely almost totally on short-term processing strategies characteristic of those that occur in <u>informational</u> relationships, those in which

the receiver's goal is simply to inform oneself of the nature of the immediate environment (Schramm, 1971). It seems likely, then, that some of the expectations about communication that children must develop have to do with recognizing different message types and that these expectations develop out of informational exchanges. Over time, short term reality testing may lead to recognition of different kinds of communication situations, each of which implies a different set of expectations on the part of both senders and receivers.

An initial test of the developmental model implicit in the foregoing would be to determine when and how children begin to differentiate among messages with different goals, and to examine whether such differentiation leads to differences in interpretational strategies. To this end, two basic questions about children's processing of different types of television content were posed:

1. When and on what basis do children begin to differentiate among different kinds of television messages?
2. Is there a relationship between perceived intent and children's responses to television messages?

These questions were addressed by showing children brief videotapes of informational, instructional, persuasive, and "mixed" messages. Exposure was followed by open-ended interviews which probed children's perceptions, comprehension, and evaluation of each message.

Method

Sample. Ninety children drawn from preschool (n=25), kindergarten (n=25), second grade (n=20), and fourth grade (n=20) classrooms participated. Although our initial plan had been to examine results as a function of school grade, the obtained age distribution, which ranged from 4 years 4 months to 11 years 3 months, made it possible to divide the sample into six age groups: under 5 years (n=10); 5 years 1 month to 6 years (n=24); 6 years 1 month to 7 years (n=19); 7 years 1 month to 8 years (n=14); 8 years 1 month to 10 years (n=13); over 10 years (n=10). The sample contained 43% girls and came primarily from white, lower-middle class and middle class families.

Message treatment. Videotapes contained persuasive, instructional, informational, and mixed messages. Two kinds of persuasive messages were represented: commercials directed at adults and commercials directed at children. This dichotomy reflects differences in the production techniques employed in commercials aimed at the two different target groups (cf. Barcus, 1980) and in children's familiarity with the commercials and the products. Instructional messages were taken from a typical "educational" spot broadcast on Saturday mornings. Excerpts from a national news program served as informational messages. Since public service announcements (PSAs) sometimes instruct, sometimes inform, sometimes persuade, and sometimes entertain, PSAs prepared especially for children served as a "mixed" message.

Two examples of each kind of message, detailed in Table 1, were used to construct two different versions of the treatment; each version was viewed by half of the children. The news and

educational messages were edited to conform to the 30 second length of the commercials and PSAs. Three different random orderings of the five message types were created for each of the two versions of the videotape. Both versions opened with a brief, warm-up excerpt from a situation comedy.

Insert Table 1 about here

Interview procedure. As one of six different interviewers took a child from the classroom to a viewing room, she introduced the topic of TV, and indicated that she wanted to ask the child some questions about different kinds of television shows.[3] The child was seated before a TV monitor and introduced to a second assistant whose purpose was to transcribe the child's responses. The child was told she would watch different kinds of "shows from television," and would be questioned about what she saw.

The warm-up excerpt (from "Mork and Mindy") was played, followed by several warm-up questions. All children were familiar with the show, noted that it was a favorite, and displayed a great deal of interest and animation while viewing.

The next message on the videotape was then played, and the child was questioned. This procedure was repeated for each message, with the version and order of messages rotated for each child. Once a child responded to all five messages, he or she was asked a set of general questions. The entire procedure required approximately fifteen minutes.

Questionnaire format. Children were asked five, open-ended questions with appropriate probes. Open-ended questions were

used to insure that the children defined the dimensions of each message type which they considered to be important. Probes were included to assess awareness of various message elements not mentioned spontaneously, and whether and how such message elements were understood.

The first question -- "What was that about?" -- provided children an opportunity to say as much or as little about each message as they would or could. Each child was given as much time and encouragement as needed to answer. To the extent that various aspects of the message were not mentioned in the initial response, probes were employed. For example, for the informational message in which Walter Cronkite discussed agricultural prices and the general economy, probes might include "What happened?...Who was that?...What was the man doing?...What was he talking about?...Why was there a picture of a farmer?" Similarly, probes associated with the coffee commercial included, "What happened?...What did the lady talk about?...What did she like best for lunch?...Why?"

The second question asked, "Do you believe what they said on the show?" and probed why or why not. The third question aimed at children's ability to label the various message types--"What kind of show was that?"--and probed why they labeled it as they did. This was followed by a question to determine children's understanding of the intent of each of the various message types: "Why would they put a show like that on TV?" followed by as many "Why's" as necessary to elicit a full response.

This interview schedule was followed for all five messages, after which three sets of general questions were asked: (1) What

is a commercial? Why are they on TV? What do they do? (2) What is the news? Why are there news shows on TV? What do they do? (3) What is a public service announcement? Why are they on TV? What do they do?

Questionnaire coding. The interview procedure made it possible for children to label a message, to talk about its intent, or to discuss almost any message element throughout the course of the interview. Thus, rather than focus on responses to specific questions, we examined entire transcripts to explore children's comprehension. For each message, all responses to all questions and probes were examined to determine whether the child (a) labeled the message, (b) articulated a purpose or intent underlying the message, (c) comprehended the general content of the message, and so on. The only exception to this practice occurred for coding of cues used to identify each message type. Assessment of cue recognition was limited to responses to questions specifically asking why they labeled a given message as they did.[4]

Judges coded the following for each message

(1) whether the child comprehended the "narrative" content of the message;

(2) whether and how the child identified the message;

(3) the criteria or cues used to identify the message;

(4) whether the child indicated any comprehension of the intent of the message;

(5) whether the child beliefed the message and the basis on which believability was judged.

Specific response categories are discribed more fully in the results section. Coding instructions were developed through an iterative process whereby an initial set of coding rules was tested and modified on the basis of a small set of randomly selected transcripts. The process was repeated until better than 90% agreement was obtained when coding the sample of transcripts. Once final coding rules were established, all transcripts were coded independently by two different judges drawn from a pool of seven. The degree of agreement using this procedure ranged from 85% to 100% depending on the question. For each item on which there was disagreement, the two original coders and a third individual discussed the problematic response and came to a decision about how it would be coded.

Results

Three questions were posed to examine children's ability to differentiate among types of messages. First, we asked whether children understood each message's narrative content--could they tell us what happened in the spot? Second, we explored their ability to categorize each type of message--did they label the spots correctly? Third, we examined perceptions of the intent of each message type--could they tell us that news attempts to inform, commercials to persuade, and so on?

Understanding message content. Comprehension of narrative content was attributed if the child described the action of a spot (eg., "the doctor gave the boy a shot and he hollered") or somehow indicated what was presented (eg., "a boy and a man talked about shaving"). As Table 2A indicates, comprehension was

remarkably high, even among the youngest children. Only the two messages aimed at adults were understood by fewer than half of any age group, and this occurred only among the youngest group for the adult commercial and the two youngest groups for news. The relatively lower proportion of children who comprehended news is worth noting. The news excerpt was highly verbal and abstract, characteristics we expected to reduce children's comprehension. Nevertheless, in spite of low comprehension, news was the first message type to be accurately labeled and the first to have its intent correctly articulated.

Identifying by label. One indication whether children differentiate among message types is their ability to label by genre. For news and commercials, identification consisted of assigning generally accepted labels (eg., news; commercial; advertisement). For the educational spot and the public service announcements, criteria were somewhat less stringent because labels for these are not commonly part of the public vernacular. Coders accepted any relatively accurate descriptive label or phrase such as "safety commercial" or "teaching show." Even with the looser criteria, few children correctly labeled the latter message types.

As Table 2B shows, the ability both to label a given message and to label different message types is related to age. News programs are labeled quite early: most six-year-olds named the news. Identification of commercials takes slightly longer, but it makes little difference whether the commercial is aimed at children or adults. Over half the children between five and six years labeled both types of commercials, and the proportion

rapidly increased to 100% accuracy by ten years. Finally, correct labeling of educational messages and the PSAs takes much longer and never approaches even 50% accuracy. However, since neither of these message types has a commonly applied label, accurate classification is unlikely, even with an adult sample.

Unfortunately, the small number of children in some of the age groups and the distribution of responses make appropriate statistical tests of the proportions presented in Table 2B suspect because of low expected cell frequencies. Nevertheless, chi-square analyses performed for heuristic purpooses support what seems obvious from straightforward examination of the percentages. That is, the ability to label message types is strongly related to age, with a particularly large increase in this ability appearing among eight- and nine-year-olds. Within each age group, news is labeled first, followed by commercials, then by educational spots and public service announcements (labels for which never really enter children's vocabularies).[5]

Insert Table 2 about Here

Understanding intent. The large disparities between comprehension of message content and ability to label a mes-sage point to the danger of assuming that children's apparent understanding of one dimension of a symbolic message implies understanding of other dimensions. This is particularly true for the ability to label and comprehension of intent. Children may attach labels to messages without really understanding their intent, or they may

understand the intent of a message even when unable to label it.

We examined five categories of intent, four based on Schramm's (1971) functions of social communication (to inform, to instruct, to persuade, to entertain) and a fifth derived from the distinction between "selling" and "persuading" (Roberts, 1983). Each intent was defined as follows.

(a) To inform: to tell about; to give information about; involves description and objectivity;

(b) To teach: to lead one to know; to show how to do something; to convey information in a manner adopted intentionally to make it comprehensible and amenable to storage and recall;

(c) To entertain: to amuse; to divert attention from more serious matters; often entails suspension of disbelief or acceptance of fantasy or non-instrumental information;

(d) To sell: to promote a product through the presentation of information; message tells about product, describes various characteristics, but receiver infers no bias or manipulation;

(e) To persuade: to "make you" or "get you" to do something; an element of coercion or manipulation is involved; implication that message attempts to remove receiver freedom, often through biased means.[6]

Since messages typically address more than one goal (commer-cials may teach, entertain, and persuade), multiple references to intent were recorded. We posited the following putative goal for

each message type: news - to inform; commercials - to persuade; educational spots and public service announcements - to teach.

Low cell frequencies again made chi-square analyses suspect. Nevertheless, the percentages in Table 2C show that, as with message labeling, recognition of intent is positively related to age, although it emerges slightly later and takes somewhat longer. No child younger than five years correctly articulated the intent of any message type, and it was not until after eight years that a majority of children correctly identified the intent of any but the news spot. In several cases there was a slight decline in the proportion of the oldest children who identified intent.[7]

News' informational intent was articulated earliest and rose most rapidly. Tests of the difference between correlated proportions showed that within each age group from five to eight years, significantly more children identified news intent than the intent of any other message type. Beyond eight years, recognition of other types of message intent increased enough to eliminate statistically significant differences. However, the proportion correctly identifying news intent may be overestimated. A number of children described news' intent in almost identical terms: "...to tell you what's going on in the world." Although this response clearly fits the definition of informational intent, the striking similarity in responses, particularly among the younger children, leads us to suspect that the phrase served more as a label than an explanation. That is, children appear to have been parroting a standard parental response to their fre-

quent appeal, "Aww, why do we always have to watch the news?" Finally, responses to the general question about news posed at the end of the interview produced similar results. The percentage of children describint news' intent as "to inform" was 30%, 50%, 79%, 86%, 100%, and 100% from the youngest to oldest age groups respectively.

There was no difference in the age at which the two commercials were recognized, but it was not until eight years or older that a majority identified the goal of either kind of commercial as persuasion. This finding also gains support from responses to the general question about commercials asked at the end of the interview. Persuasive intent was referred to by 10%, 8%, 16%, 36%, 69% and 60% of children in the youngest to oldest groups, results that are almost identical to those obtained in reference to specific commercials. It is also interesting to note that if "selling" and "persuasion" responses are combined, as is typical in many earlier studies, much higher proportions of children give "correct" responses much earlier: for the youngest to oldest groups respectively, are 0%, 25%, 53%, 64%, 92% and 90% for child-oriented commercials and 10%, 17%, 37%, 57%, 85%, and 80% for adult commercials.) The distinction between the informative and persuasive intent of commercials is clearly an important one.

Identification of the goal of educational spots and PSAs emerges last. Children did slightly better with educational spots, probably because they have more exposure to them and are more likely to have heard adults explain their purpose. Moreover, the "correct" intent of a PSA is anything but clear-cut, and our decision to define it as "instructional" is arguable.

Indeed, a fair number of children quite reasonably described the goal of the PSA as to inform, and when informing and teaching responses were combined, correct identification of PSA intent became 0%, 12%, 21%, 43%, 62%, and 80% for the youngest to oldest groups respectively. Children's lack of familiarity with PSAs as a message type with a recognizable label is further supported by the fact that when faced with a general question at the end of the interview asking, "What is a public service announcement?" no child referred to teaching as its intent, and only three mentioned informing.

Finally, the relationship between children's ability to label a message and to recognize its intent was examined by computing two sets of conditional probabilities: (1) the probability of correctly labeling a message given correct identification of its intent; (2) the probability of correctly identifying the intent of a message given correct labeling. The probabilities for each message type, presented in Table 3, indicate that for messages with common labels (ie., news and commercials) identification by name precedes recognition of intent. Conversely, for message types lacking a common public label (ie., educational spots and public service announcements), recognition of intent precedes ability to label. Almost identical results were obtained when conditional probabilities were computed for each separate age group.

Insert Table 3 About Here

Identification cues. The trend toward more understanding of

message intent with increased age is paralleled by the kinds of cues children used to identify messages. Whenever a child named a given message type, whether correctly or incorrectly, a follow-up probe asked for the bases of identification. Responses were sorted into one of five categories: (1) past experience (eg., I've seen it before; my parents told me); (2) content (any reference to specific content such as "grain prices" or "it was about shaving lotion"); (3) structure (including length, use of animation, music, etc.); (4) function (any reference to message intent); (5) other (including "don't know" and non-codeable responses).

Table 4 presents the mean percentage of children using each type of cue regardless of message type. With the exception of cues used to identify news, few responses fell into either the content or the past experience categories. Approximately 30% of the two youngest groups appealed to past experience as a dominant cue helping them to recognize news; this dropped to about 15% among children six and older. There was no clear pattern to the use of content based cues. Neither the two youngest nor the oldest groups mentioned content when responding to news; about 15% of the six-year-olds and the eight- to ten-year-olds mentioned content; almost 30% of the seven-year-olds referred to content based cues. Interestingly, the dominant content cue associated with news was recognition of Walter Cronkite (80%).

Insert Table 4 About Here

The single, clear-cut pattern to emerge from examination of

the cues children reported using to identify the various message types pertained to functional responses. The proportions presented in Figure 1 show a relatively consistent increase with age in the number of children who appealed to elements of message function to explain why they identified messages as they did. Although several variations occurred for the two commercials, they were small. And once again, the overall pattern points to a significant increase in use of functional cues between eight and nine years.

Belief criteria. Finally, we asked whether there is any pattern to the reasons children give for believing or disbelieving different message types. Responses were reduced through an interative process first to eighteen categories, then to nine, and finally to two for analytical purposes. The nine intermediate categories included: (1) assertions of existence ("...because there really are farmers"); (2) tests of plausibility ("...a dog can't talk"); (3) active testing ("...because I eat Honeycombs and they are big"); (4) reference to acquired norms ("...my mother says to use the crosswalk"); (5) restatement of content ("...because the doctor gave the boy a shot"); (6) equation of medium/message with truth ("...the news (TV) is true"); (7) unquestioned acceptance ("I just believe it"); (8) miscellaneous other responses; (9) "Don't know" and No Response.

The small number of responses in these categories led us to combine the first four into a more superordinate classification of "reality testing." There are obvious differences in the underlying dimensions of each (eg., a reference to the lack of

realism in an animated character versus the reality of direct experience with a product). Nevertheless, there is also a fundamental similarity among these four categories in that each refers to an attempt to compare message attributes with prior conceptions of reality. That is, even though much of a five-year-old's conception of reality may come from parental proscriptions while that of a ten-year-old may rest more on direct experience, the act of interpreting a new message via comparison with prior conceptions of reality is basically the same.

Figure 2 shows the percentage of children in each age group who appealed to some kind of reality test when asked why they believed in a particular message. The trend is striking; reality testing increased linearly and strongly with age. The only exception was with news, the one message for which there was a dramatic decrease in reality testing after the age of eight.

Although the numbers are small, examination of the distribution of responses for each message type within the four sub-categories of reality testing is instructive. For commercials there was a trend toward references to active testing as children get older. Moreover, the trend was particularly strong for the child oriented commercials, which presented products familiar and accessible to most children. For the educational spot, assertions of existence and reference to acquired norms tended to dominate and to be used more by older children. Testing of the PSAs depended primarily upon reference to acquired norms. Finally, and most interesting, younger children tended to apply tests based on assertions of existence or plausibility when assessing news, but older children turned away

from reality tests altogether. Rather, they saw news as believable because it was news. Forty-six percent of the eight- to ten-year-olds and 80% of those ten years and older indicated that they believed the news because "...it's the news" or "the news is to tell you what happens." The drop among older children in the use of reality tests of evaluate news, then, seems concurrent with development of acceptance of the convention that news should be truthful.

Discussion

Although they must remain tentative because of the small number of participants, this preliminary exploration of how children of different ages respond to different types of messages points to several general conclusions. Perhaps more interesting, the study also raises some questions that warrant further investigation.

First, and not surprising, it is clear that children's ability to process different kinds of messages improves with age. As they get older, they comprehend more of the narrative content, they label more accurately, and they more correctly recognize the basic intent of different message types. Moreover, and in line with research cited earlier, there is a striking increase in ability to label and to recognize intent between eight and nine years.

Second, labeling and recognition of intent depend on message type. That is, it seems that informational messages and/or the informational dimensions of any message type are recognized and dealt with earliest. This is followed by the emergence of abili-

ty to recognize and interpret persuasive messages--at least insofar as TV commercials represent persuasive messages. Finally, the ability to label and recognize the intent of instructional messages (including PSAs) appears last.

Third, is is clear that comprehension of narrative content does not depend on ability to name a message, nor on recognition of message intent. The educational spots and the PSAs were the two best understood messages regardless of age. But no more than 30% of any age group ever labeled them correctly (no child under seven ever named either message type), and relatively few correctly articulated the intent of either. Similarly, there is little evidence for a developmental relationship between ability to label a message and recognition of its intent. Labeling ability preceded intent recognition for messages with common names (eg., commercials); intent recognition prodeded naming messages that lacked commonly applied labels (eg., educational spots).

Still another pattern to emerge in these data is the increasing tendency with age to appeal to more functional cues as a basis for interpretation. This, too, recalls earlier developmental work in that there is a sharp increase in the use of functional cues at about eight years of age (eg., "It's a commercial because it tries to make you buy").

Turning to differences among message types, it seems clear that the distinction between selling and persuasion in response to the intent of commercials is a valid one. When no such distinction was made, it appeared that over half of the children understood the intent of adult oriented commercial before age

eight and of a child oriented commercial before age seven. When the more stringent standard of recognition of the message's persuasive nature was applied, however, correct perception of intent did not occur among a majority of children until the eighth year or later. Indeed, only about a third of seven-year-olds recognized the persuasive nature of commercials. To the extent that recognition of intent is viewed as a mediator of different kinds of processing strategies, it appears that children under eight years are not capable of dealing appropriately with commercials. These results point to a potentially rich area for further research--an examination of whether and how messages are processed differently as a function of recognition of intent.

Another intriguing set of questions is raised by children's responses to news. Even very young children name it and identify its intent. However both of these abilities appear to be acts of labeling, particularly in light of how little of the narrative content of the news they understood. It is as if they have learned to refer to what they do not understand but probably encounter on an almost daily basis. Future work should delve further into responses such as, "News is to tell you what happens in the world," in order to determine just what children mean by such a statement.

Still another question is raised by the sudden and dramatic drop, at about eight years, in reality tests as the basis for justifying belief in the news. Only one child in the oldest group referred to making a comparison of message content with prior conceptions of reality. Rather, almost half of the eight-

to ten-year-olds and all but two of those over ten years made assertions that equated the news with truth--a kind of "If news then believable" statement. Two possible reasons for this change in believability criteria seem plausible. First, and the more disturbing, is the possibility that children are somehow trained to accept news as truthful, accurate, a legitimate representation of reality (if not reality itself). Such acceptance may come from parental modeling (parents who do not question or test may produce children who neither question or test), schooling, or simply social convention. If this is the case, it is of both scientific and public concern. A second possibility, however, is that equation of news with bedlievable information is a kind of default reaction. It may be that more often than not news concerns aspects of reality which children simply cannot test (perhaps because they lack opportunity or understanding), and they know it. In other words, it may be that as children grow older they learn that a very appropriate basis on which to judge the truthfulness of a message is through one or another form of reality testing. At the same time, it is reasonable to assume that they become more capable of assessing both their ability to make such tests and the appropriateness of whatever test is made. By eight or nine years, then, children may begin to realize that they have little basis on which to test messages about draft registration or loans to small farme. Not only do they lack direct experience with such things, but it is unlikely that their parents have discussed such issues. The option is to base judgments of believability on some other criterion, and a convenient conventional response is that news is reality, therefore accu-

rate. Whether either of these explanations or some other is correct, given the importance our society attaches to a well-informed populace, this is an area that demands further investigation.

Rather than list additional questions raised by this preliminary study, suffice it to say that our initial expectation that there would be interesting differences in how children of different ages respond to different types of messages has been supported. The results have raised a host of interesting theoretical possibilities and certainly point to a rich new area for research.

References

Barcus, F.E. The nature of television advertising to children. In E.L. Palmer & A. Dorr (Eds.), Children and the faces of television: Teaching, violence, selling. New York: Academic Press, 1980.

Bryant, J. & Anderson, D.R. (Eds.). Children's understanding of television: Research on attention and comprehension. New York: Academic Press, 1983.

Christenson, P.G. & Roberts, D.F. The role of television in the formation of children's social attitudes. In M.J.A. Howe (Ed.), Learning from television: Psychological and educational research. London: Academic Press, 1983.

Collins, W.A. Learning of media content: A developmental study. Child Development, 1970, 41, 1133-42.

Comstock, G., Chaffee, S., Katzman, N., McCombs, M. & Roberts, D.F. Television and human behavior. New York: Columbia University Press, 1978.

Delia, J.G. & O'Keefe, B.J. Constructivism: The development of communication in children. In E. Wartella (Ed.), Children communicating: Media and development of thought, speech, understanding. Beverly Hills: Sage, 1979.

Federal Trade Commission, FTC staff report on television advertising to children. Washington, D.C.: Federat Trade Commission, 1978.

Flavell, J.H. Cognitive development. Englewood Cliffs, N.J.: Prentice Hall, 1977.

Gaines, L. & Esserman, J.F. A quantitative study of young children's comprehension of television programs and commercials. In J.F. Esserman (Ed.), Television advertising and children: Issues, research and findings. New York: Child Research Service, 1981.

Hale, G.A., Miller, L.K. & Stevenson, H.W. Incidental learning of film content: A developmental study. Child Development, 1968, 39, 69-77.

Olver, R.R. & Hornsby, J.R. On equivalence. In J.R. Bruner, R. Olver, P.M. Greenfield, et. al. Studies in Cognitive Growth. New York: Wiley, 1966.

Roberts, D.F. Children and commercials: Issues, evidence, interventions. Prevention in Human Services, 1982, 2, 19-35.

Roberts, D.F. & Bachen, C.M. Mass communication effects. Annual Review of Psychology, 1981, 32, 307-56.

Roberts, D.F., Bachen, C,M. & Christenson, P.G. Perceptions of and cognitions about television commercials and supplemental consumer information. Testimony prepared for the Federal Trade Commission Rulemaking Hearings on Television Advertising and Children, San Francisco, Calif, November, 1978.

Robertson, T.S. & Rossiter, J.R. Children's responsiveness to commercials. Journal of Communication, 1977, 27(1), 101-106.

Rossiter, J.R. Children and television advertising: Policy issues, perspectives and the status of research. In E.L. Palmer & A. Dorr (Eds.), Children and the faces of television: Teaching, violence, selling. New York: Academic Press, 1980.

Schramm, W. The nature of communication between humans. In W. Schramm & D.F. Roberts (Eds.), The process and effects of mass communication. Urbana, Ill.: University of Illinois Press, 1971.

Schramm, W. Men, message and media: A look at human communication. New York: Harper & Row, 1973.

Selman, R. & Damon, W. The necessity (but insufficiency) of social perspective taking for conceptions of justice at three early levels. In D. DePalma & J. Foley (Eds.), Moral development: Current theory and research. Hillsdale, N.J.: L. Erlbaum, 1975.

Shantz, C.V. The development of social cognition. In E.M. Hetherington (Ed.), Review of child development research (Vol.5). Chicago: University of Chicago Press, 1975.

Ward, S., Wackman, D. & Wartella, E. How children learn to buy. Beverly Hills: Sage, 1977.

Wartella, E. (Ed.). Children communicating: Media and development of thought, speech, understanding. Beverly Hills: Sage, 1979.

Wartella, E. Individual differences in children's responses to television advertising. In E.L. Palmer & A. Dorr (Eds.), Children and the faces of television: Teaching, violence, selling. New York: Academic Press, 1980.

Worth, S. & Gross, L. Symbolic strategies. Journal of communication, 1974, 24, 27-39.

Footnotes

1. The importance of accurate perception of message intent is recognized at a societal level as attested to by the relatively elaborate rubric of conventions and regulations erected to reduce the chance of misperception. For example, paid commercial and political announcements in the mass media must be so labeled, editorializing is limited to clearly designated "op-ed" pages in the newspapers, network television journalists refuse to deliver commercial messages, some drama presents explicit reminders that it is fiction, court cases are fought over whether various news magazine stories (both print and TV magazines) inform or persuade, etc.

2. For example, this was a particular concern of pre-production planning discussion concerning presentation of science information in the CTW production, 3-2-1--Contact!; personal communication, Samuel Gibbon, Production Consultant, CTW, Fall, 1979.

3. The authors gratefully acknowledge the assistance of Art Stein, Jeffery Tracy, Janet McLaren and Sally Girvin, who participated in the interviewing of participants and in the coding of data.

4. Although there were several instances throughout the questionnaire transcripts when children mentioned various cues or elements within messages, the only time we could be sure that a given cue was actually serving as the basis for message identification was in response to the probe for question 3.

5. When small expected cell frequencies (ranging from less than one to almost five, depending on which message type was analyzed) were ignored for heuristic purposes, chi-square values ranged from 12 to 25, all highly significant ($p<.001$). When responses were collapsed to compare children younger than eight years with those over eight years (hence, eliminate low expected cell frequencies), all chi-square values were large and significant ($p<.001$) Tests for differences between correlated proportions, performed to compare labeling of message types within age groups, are reported in Table 2B.

6. More detailed definitions of each intent as well as examples of children's comments exemplifying each definition were provided to coders. Coding instructions may be obtained from the authors.

7. Chi-square analyses performed in spite of low expected cell frequencies produced coefficients ranging from 20 to 39, all significant beyond $p<.001$. Similarly, when age categories were combined to compare children under eight years with those eight years and older, all chi-squares were significant ($p<.001$).

Table 1

Television Messages Used to Elicit Children's Responses

Message Type	TV Genre	Version I[1]	Version II[1]
Informational	1. News	CBS News--Walter Cronkite reporting House approval of a draft registration bill. Insert photograph of young recruits being sworn into military service.	CBS News--Walter Cronkite reporting approval of Federal Reserve Bank loans to small business and farms. Insert drawing of farmer holding a pitchfork.
Educational	2. Educational Spot	Schoolhouse Rock--"Interjections" animated segment in which a young child is given an injection and responds with "interjections--Hey! Owww!"	Schoolhouse Rock--"Interjections" animated segment in which Geraldo woos Geraldine, kisses her, and elicits various "interjections--Hey! Fresh!"
Persuasive	3. Adult Commercial	Mellow Roast Coffee--Live action spot in which Roger Miller appears in an old fashioned country store to share a cup of coffee with the woman behind the counter.	Aqua Velva Aftershave--Live action spot in which Pete Rose and his young son, in uniform and on the dugout steps, discuss the merits of Aqua Velva.
	4. Child Commercial	Cocoa Krispies Cereal--Mixed live action and animation; Tusk, an animated elephant, dances, sings, and raves about the product to a young boy and girl.	Honeycombs Cereal--Fully animated; young space explorers rocket to a distant planet to show the creatures who inhabit it that Honeycombs cereal has the biggest flakes in the universe.
Mixed	5. Public Service Announcement	Eat a Good Breakfast--Fully animated spot in which a dog tells a tired girl that she needs more than just cereal for breakfast; she needs milk, juice, toast, fruit, etc.	Safe Street Crossing--Fully animated spot in which Wonder Woman praises a boy she observed showing his mother the safe way to cross a busy street.

1. Three different random orderings of messages were prepared for each version.

TABLE 2

Percentage in Each Age Group Comprehending, Labeling and Identifying the Intent of Different Messages

A. Percentage Comprehending Message Content

Message Type	0/5 years (n=10)	5+/6 years (n=24)	6+/7 years (n=19)	7+/8 years (n=14)	8+/10 years (n=13)	10 + years (n=10)
News	30%	21%	53%	50%	77%	90%
Child Comm.	80	83	95	93	100	100
Adult Comm.	40	67	84	86	92	100
Educational	100	83	90	93	100	90
PSA	60	92	95	100	100	100

B. Percentage Correctly Labeling Each Message Type[1,2]

News	60%a	88%a	95%a	100%a	92%a	100%a
Child Comm.	10 ab	62 ab	53 b	71 b	85 a	100 a
Adult Comm.	10 ab	58 b	63 ab	79 ab	92 a	100 a
Educational	0 b	0 c	0 c	7 c	23 b	30 b
PSA	0 b	0 c	0 c	7 c	23 b	20 b

C. Percentage Articulating Correct Message Intent[1,2]

News	0	38%a	63%a	86%a	100%a	100%a
Child Comm.	0	0 b	16 b	36 b	77 ab	60 ab
Adult Comm.	0	13 b	11 b	21 b	61 ab	60 ab
Educational	0	8 b	11 b	36 b	62 ab	40 b
PSA	0	8 b	5 b	29 b	39 b	60 ab

1. Because children gave multiple responses, percentages within age groups are not independent.
2. Within age groups, percentages with differing subscripts differ at least $p<.05$.

TABLE 3

Conditional Probabilities of Knowing Labels and Recognizing Intent for Each Message Type.

Probability of Knowing:	Message Type				
	News	Adult Commercial	Child Commercial	Educational	PSA
Label Given Intent	.95	.75	.96	.17	.24
Intent Given Label	.35	.32	.67	.50	.72

TABLE 4

Percentage in Each Age Group Using Different Types of Cues to Identify Various Message Types.[1]

Cues refer to:	0/5 years	5+/6 years	6+/7 years	7+/8 years	8+/10 years	10+ years
Content	2%	2%	5%	7%	3%	2%
Past Experience	10%	14%	18%	9%	11%	10%
Structure	0%	7%	8%	21%	9%	22%
Function	0%	4%	15%	17%	49%	44%

1. Because children gave multiple responses, percentages within age groups are not independent.

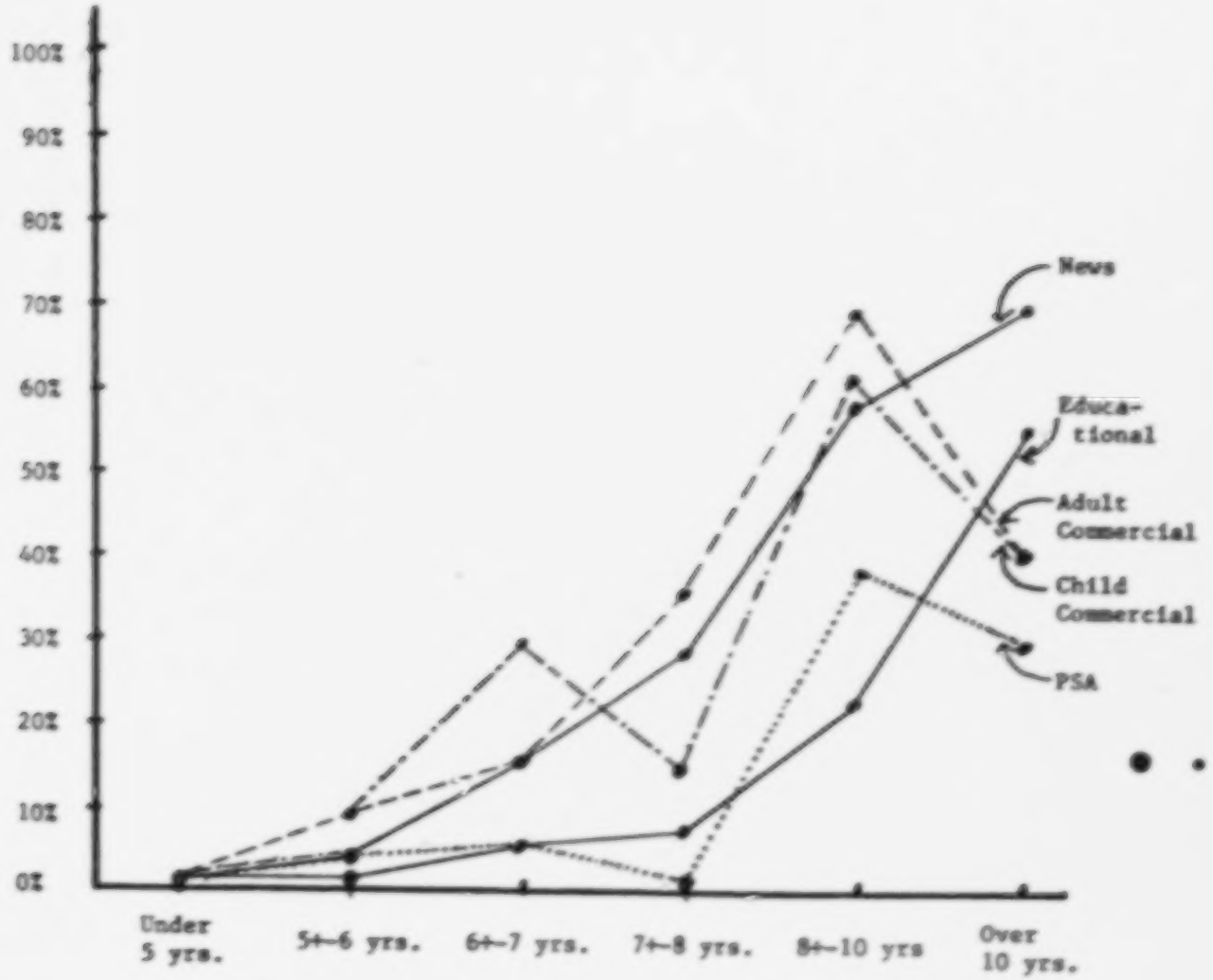

Figure 1.

Percentage of Children in Each Age Group Using Functional Cues as the Basis for Identifying Each Message Type.

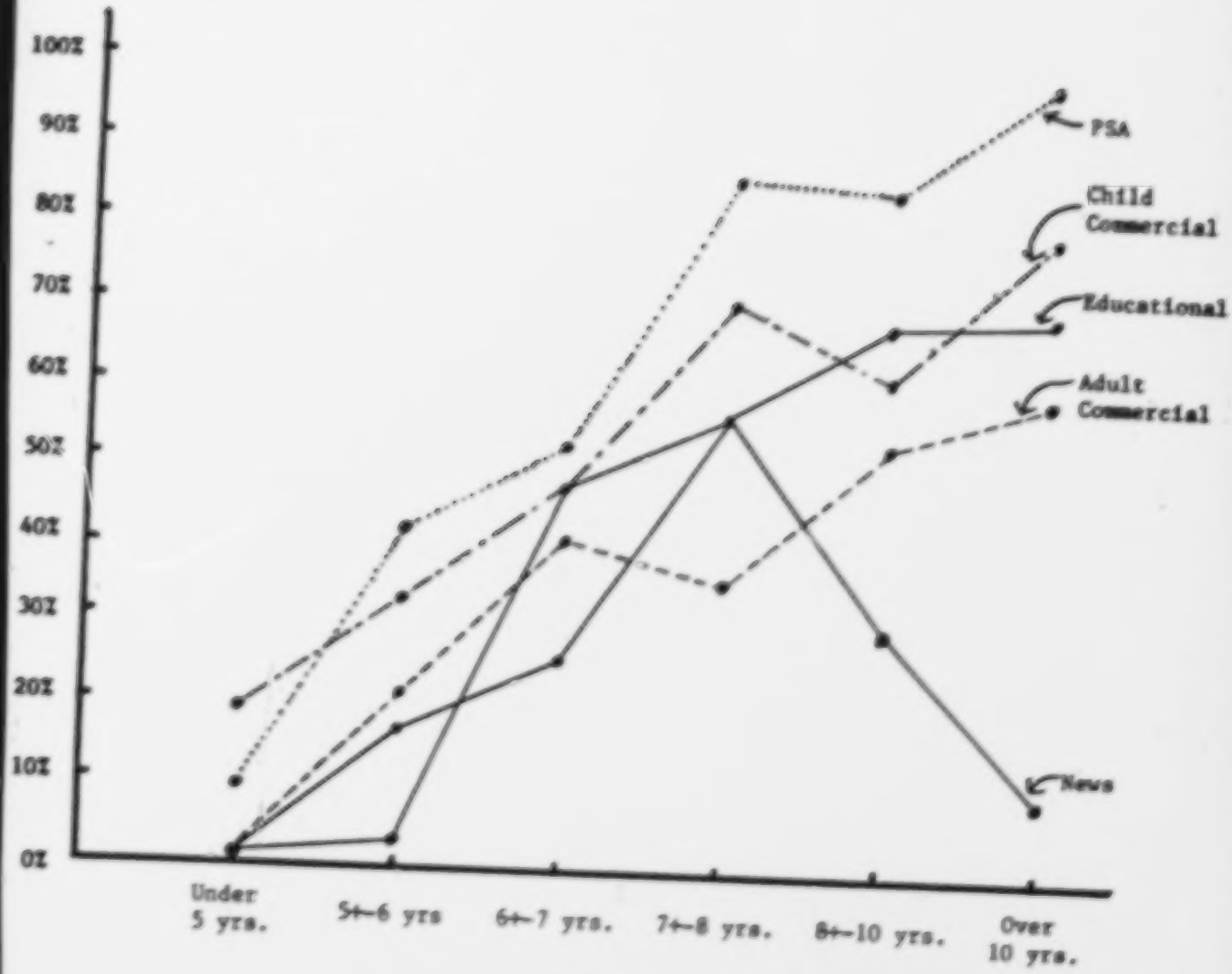

Figure 2.

Percentage of Children in Each Age Group Employing Reality Tests as the Basis For Judging Message Believability for Each Message Type.